

For the next 15 minutes, go over your answers on the quiz.

If you do not have a calculator or could not figure out how to use the online matrix calculators, now is your chance to grab one and check your answers or finish the quiz.

For 3e) leave the fraction out front

example $\frac{1}{16} \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} - \frac{1}{8} \begin{bmatrix} 2 & 4 \\ 6 & 8 \end{bmatrix}$

2. Solve for x and y.

$$a) \begin{bmatrix} 2x & 1 \\ 2 & 0 \end{bmatrix} \begin{bmatrix} 0 & 3 \\ 2x & -y \end{bmatrix} = \begin{bmatrix} -4 & -9 \\ 0 & 6 \end{bmatrix} = \begin{bmatrix} 2x & 6x-y \\ 0 & 6 \end{bmatrix}$$

(2x2)(2x2) \Rightarrow [2x2]

3. Use matrices A, B, and C to solve the problems below.

$$B = \begin{bmatrix} 1 & 3 \\ -2 & 4 \end{bmatrix}$$

$$A = \begin{bmatrix} 6 & 1 & 0 & 8 \\ -4 & 3 & 7 & 11 \end{bmatrix}$$

$$B = \begin{bmatrix} 1 & 3 \\ -2 & 4 \end{bmatrix}$$

$$C = \begin{bmatrix} 5 & -2 \\ 3 & 6 \end{bmatrix}$$

$$BA = \begin{bmatrix} 6 & -12 \end{bmatrix}$$

a) $3A$

b) $B + C$

c) BA

d) AB

e) $B^{-1} - C^{-1}$

4. To get full credit on this problem you must:

a) Write the system as a matrix equation.

b) Solve the system by finding the inverse matrix. Use a calculator or check online for a matrix calculator (e.g. google: "matrix calculator").

Joyce finds 3 boxes of nuts at a holiday shop and is wondering how much the nuts sell separately per pound. Find the price per pound of each type of nut if Box 1 costs \$12, Box 2 costs \$16, and Box 3 costs \$24.

	Lbs. of Almonds	Lbs. of Pecans	Lbs. of Pistachios
Box 1	1	1	1
Box 2	2	3	0
Box 3	0	3	2

ID	3.6	4.1-4.3	4.3-4.5	4.7	Ch4Review	Ext.Prob2	Ch4Quiz	Ch4A
0	3	3	3	3	3	10	10	100
100295	3	3	3			9		
102463	2	3	3			10		
104717	1		3					
108389	1	3				10		
119217		2						
127150	1	3				10		
129780	3	3				10		
129994								
130849		3				9		
130873			3			10		
136021	2	3	3			10		
137398	3					10		
143282	3		3			10		
150198	3	3	3			10		
152550	3	3	3			10		
152984								
155824		3	3					
156613		2				10		
156758	3	3	3					
160368								
166325	3	3	3			10		
169013	2	3						
173559								
173561			3					
175757	2	3	3					
178498	3	3	3					
185670	2	3	3			10		
189776	3	3	3					
189783	3	3	3			10		
197832		3	3			10		

TEST PREP:

1. Solve systems with 3 variables algebraically using sub/elim.
2. Solve systems with n variables using a calculator.
3. Solve systems with 2 variables by hand, using the inverse matrix.

$$A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}, A^{-1} = \frac{1}{ad-bc} \begin{bmatrix} d & -b \\ -c & a \end{bmatrix}$$

If determinant $(ad-bc) = 0 \Rightarrow$ no inverse

4. Add, subtract, and multiply matrices.

$$(2 \times 3) + (3 \times 3)$$

add/subtract \rightarrow must have same size matrix

$$\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \begin{bmatrix} 1 \\ 2 \end{bmatrix}$$

$(2 \times 2) \quad (2 \times 1)$

5. Solve for variables within a matrix equation.

$$\begin{bmatrix} a & b \\ c & d \end{bmatrix} = \begin{bmatrix} 0 & 1 \\ 2 & 3 \end{bmatrix}$$

$$\begin{bmatrix} 1+4 \\ 3+8 \\ 11 \\ 5 \\ 11 \end{bmatrix}$$

6. Solve system w/ calculator.

$$3x + 2y - z = 1$$

$$2x + y - 3z = 4$$

$$-4x - 2y + 5z = -2$$

$$\begin{bmatrix} 3 & 2 & -1 \\ 2 & 1 & -3 \\ -4 & -2 & 5 \end{bmatrix} \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} 1 \\ 4 \\ -2 \end{bmatrix}$$

$[A] \quad [B]$

$$[A]^{-1} [B] = \text{solution}$$

$$\cancel{A^{-1}A} x = A^{-1}B$$

$$x = A^{-1}B$$

In-Class Review Problems:

Calculator Problems:

p. 230: 39, 45

p. 226: 42

Just do $[A]^{-1}$

no solution

Review Problems:

p. 230: 17, 18, 21, 22, 36-38, 41, 44

p. 163: 43, 45

by hand

$$\textcircled{A^{-1}} = \frac{1}{\sqrt{A}}$$

$$3^{-1} = \frac{1}{3}$$

$$\begin{bmatrix} 6 & 1 \\ 0 & 4 \end{bmatrix}^{-1} = \frac{1}{24} \begin{bmatrix} 4 & -1 \\ 0 & 6 \end{bmatrix}$$

det = 24 ✓

$$= \begin{bmatrix} \frac{1}{6} & -\frac{1}{24} \\ 0 & \frac{1}{4} \end{bmatrix}$$

Books

~~Julia M.~~

~~Deb.~~

~~Isaac~~

~~Chloe~~

~~Brittany~~

Brianna ✓

Help ?
This Room: Today
E206 : Tomorrow